In the Application of:
Gerd MANSFELD
Serial No.: New Application

IN THE CLAIMS:

1. (Currently Amended) ~~Use of~~ A method for providing a detectable odor to a fuel gas having a methane content of at least 60 wt.% by adding to said fuelgas a mixture containing

   A) at least two different acrylic acid C_1-C_6 alkyl esters;

   B) at least one compound from the group comprising C_1-C_8 mercaptans, C_4-C_{12} thiophenes, C_2-C_8 sulfides or C_2-C_8 disulfides; and

   C) at least one compound from the group comprising norbornenes, C_1-C_6 carboxylic acids, C_1-C_8 aldehydes, C_6-C_{14} phenols, C_7-C_{14} anisoles or C_4-C_{14} pyrazines.[[;]]

   ~~D) optionally an antioxidant~~

   ~~for the odorisation of fuel gas having a methane content of at least 60 wt.%.~~

2. (Currently Amended) ~~Use~~ A method according to claim 1, wherein the mixture contains

   A) at least two different acrylic acid C_1-C_4 alkyl esters;

   B) at least one compound from the group comprising C_1-C_8 mercaptans, C_4-C_8 thiophenes, C_2-C_8 sulfides or C_2-C_8 disulfides;

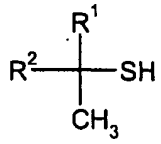
   C) at least one compound from the group comprising norbornenes, C_2-C_5 carboxylic acids, C_2-C_5 aldehydes, C_6-C_{10} phenols, C_7-C_{10} anisoles or C_4-C_{10} pyrazines and

   D) at least one antioxidant.

3. (Currently Amended) ~~Use~~ A method according to claim 1, wherein the mixture contains

   A) acrylic acid methyl ester and acrylic acid ethyl ester;

   B) at least one compound from the group comprising thiophene, tetrahydrothiophene, dimethyl sulfide, diethyl sulfide, di-n-propyl sulfide, diisopropyl sulfide, dimethyl disulfide, diethyl disulfide, di-n-propyl disulfide, diisopropyl disulfide or the mercaptans having the formula (I)



(I)

wherein

R^1 denotes hydrogen, methyl or ethyl, ~~preferably methyl,~~ and

R^2 denotes an alkyl group having 1 to 4 carbon atoms~~, preferably methyl, ethyl, isopropyl, isobutyl or tert-butyl~~;

C) at least one compound from the group comprising C_2-C_5 carboxylic acids, C_3-C_5 aldehydes, C_1-C_4 monoalkylated phenols; and

D) at least one antioxidant.

4. (Currently Amended) ~~Use~~ A method according to claim 1, wherein the mixture comprises

A) acrylic acid methyl ester and acrylic acid ethyl ester;

B) tert-butyl mercaptan;

C) at least one compound from the group comprising propionaldehyde, isovaleraldehyde, isovaleric acid, 2-ethylphenol, 4-ethylphenol; and

D) one or two antioxidants ~~or consists of these components~~.

5. (Currently Amended) ~~Use~~ A method according to claim 1 ~~one of claims 1 to 4~~, characterised in that the mixture contains ~~as antioxidant~~ tert-butyl hydroxytoluene or hydroquinone monomethyl ether as an antioxidant.

6. (Currently Amended) ~~Use~~ A method according to claim 1 ~~one of claims 1 to 5~~, characterised in that the mixture contains:

60 to 97 wt.% of component A), ~~and/or~~

1 to 30 wt.% of component B), ~~and/or~~

0.5 to 20 wt.% of component C), and ~~and/or~~

0.01 to 2 wt.% of component D).

7. (Currently Amended) ~~Use~~ A method according to claim 1 ~~one of claims 1 to 5~~, characterised in that the mixture contains:

70 to 95 wt.% of components A), ~~and/or~~

2 to 25 wt.% of components B), ~~and/or~~

1 to 10 wt.% of components C), and ~~and/or~~

0.02 to 1 wt.% of components D).

8. (Currently Amended) ~~Use~~ A method according to claim 1 ~~one of claims 1 to 7~~, characterised in that the ratio by weight of component B) to component C) is in the range from 6 : 1 to 1 : 3.

9. (Currently Amended) Fuel gas with a methane content of at least 60 wt.%~~,~~ and containing a an odorization mixture ~~as defined in one of claims 1 to 8~~ comprising:

A) at least two different acrylic acid C_1-C_6 alkyl esters;

B) at least one compound from the group comprising C_1-C_8 mercaptans, C_4-C_{12} thiophenes, C_2-C_8 sulfides or C_2-C_8 disulfides; and

C) at least one compound from the group comprising norbornenes, C_1-C_6 carboxylic acids, C_1-C_8 aldehydes, C_6-C_{14} phenols, C_7-C_{14} anisoles or C_4-C_{14} pyrazines. [[;]]

10. (Original) Fuel gas according to claim 9, characterised in that the fuel gas is natural gas.

11. (Cancelled)

12. (Original) Process according to claim 1 ~~11~~, characterised in that the mixture is added to the fuel gas in a quantity of 5 to 100 mg per m^3 of gas.